Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

horizon on May 1 until nearly 4 A. M., and until about midnight on June 30. It is in the constellation *Virgo,* continuing its retrograde motion about 2° until June 6, and then moves eastward nearly 1° by the end of the month.

*Saturn* is near *Jupiter,* about 8° west, also in *Virgo;* and being about 4° north of *Jupiter* sets at about the same time, a little before 4 A. M. on May 1 and before midnight on June 30. It moves about 1° west up to June 4 and then resumes its eastward motion.

*Uranus* is a morning object, rising a little before 3 A. M. on May 1 and a little before 11 on June 30. It is in the constellation *Aquarius* and moves eastward about 1° up to June 18, and then begins to retrograde. No moderately bright star is near.

*Neptune* is above the horizon until about 1:30 A. M. on May 1 and until about 9:30 on June 30. On the latter date it is about 2° south of *Venus.*

## NOTES FROM PACIFIC COAST OBSERVATORIES

### The Total Solar Eclipse of September 21, 1922

A note in the October, 1921, number of these PUBLICATIONS described the astronomic and the probable atmospheric conditions under which the eclipse of September 21, 1922, will be observable at the Maldive Islands, Christmas Island, the Ninety-Mile Beach on the northwest coast of Australia, and the points accessible by railroad in southeastern Queensland.

It is expected that an expedition from the Kodiakanal Observatory, Southern India, in charge of Director Evershed, will locate in the Maldive Islands.

An expedition from the Royal Observatory, Greenwich, personnel consisting of Mr. and Mrs. Jones and Mr. Melotte, sailed from Liverpool in January for Christmas Island. The observers will arrive there several months in advance of the eclipse date, partly in order to obtain night photographs of the sky needed as reference plates in the Einstein problem, and likewise to conduct a well-considered program for comparing the brightness of northern and southern stars, with a view to uniformity of the photometric system in the two hemispheres.

The Astronomische Gesellschaft, at the meeting of last summer, formally recognized the desirability of dispatching an expedition to observe the eclipse of this year, and a committee was appointed to consider and provide ways and means. It is now understood that a combined expedition from Germany and Holland, personnel consisting of Dr. Freundlich and Dr. Kohlschütter of Germany, Dr. Voute of Java and possibly Professor Einstein, will be established on Christmas Island.

As already announced in October, the Lick Observatory had definitely planned to dispatch a modest eclipse expedition to the vicinity of Wallal, the combined telegraph and postal station at the point on the northwest shore of Australia where the central line of the shadow path intersects the coast line. At that time it was not known that other expeditions would locate in the same region, because the existing means of reaching Wallal were difficult and expensive. Fortunately, some of the Australian astronomers, notably Father Pigot of Riverview College Observatory, Sydney, presented a proposal to the Commonwealth Government that a vessel of the Australian Navy transport the eclipse astronomers and their instruments and supplies from Fremantle, the port of Perth, to Wallal and return, and in due time the Government, with exceeding generosity, offered to provide this service. Upon receipt of this information, the Lick Observatory, with the approval and financial support of Regent William H. Crocker, enlarged the scale of its expedition as to personnel and instrumental equipment. The plans of the Australian Government in this regard were announced in the United States and elsewhere as effectively as possible, and it was hoped that the opportunities thus provided would be taken advantage of by other expeditions. It is now learned that the Observatory at Perth, Australia, will send an expedition to the Wallal region. The University of Toronto, Canada, is likewise dispatching an expedition to the same destination, the personnel to consist of Professor C. A. Chant, Mrs. Chant and Miss Chant.

The Observatory at Adelaide has decided to locate an expedition at Cordillo Downs, on the central line of the shadow path in the extreme northeastern corner of South Australia. This location calls for the exercise of courage and patience, in that the transport of instruments and supplies from the nearest point of the railway to Cordillo Downs will consume five or six weeks by camel train.

The Sydney Observatory will send an expedition to Goondiwindi, in the southern part of Queensland, in charge of Director Cooke.

The desirability of repeating the tests for the deflection of stellar rays in passing through the Sun's gravitational field at the eclipse of next September is universally recognized. Although the grouping of the stars on that occasion will not be nearly so favorable as when the British expeditions observed for the Einstein effect in May, 1919, yet the experience gained at the eclipses of 1918 and 1919, suggesting improved equipment and methods, gives promise of entirely satisfactory results, if weather and other conditions prove to be favorable. Accordingly, the Einstein problem is the principal feature of most of the observing programs. The Greenwich party will observe for the Einstein effect with the Greenwich astrographic telescope, mounted equatorially.

The chief and perhaps exclusive feature of the German-Dutch program is the Einstein problem, but information is not at present available as to the plans for securing the reference night plates of the group of stars concerned.

The Perth astrographic telescope will form a part of the eclipse equipment of the Perth Observatory. It will presumably be applied to the Einstein problem, but information on this subject is lacking.

The personnel of the Crocker expedition from the Lick Observatory will consist of Director and Mrs. Campbell, Dr. Moore and Dr. Trumpler. Volunteer members of the expedition will be Dr. and Mrs. Adams of Wellington, New Zealand, Dr. Baldwin and Mr. Hosking of the Melbourne Observatory, Professor Ross of the University of Western Australia at Perth, and probably one or two others. The equipment devoted to the Einstein test will be as follows: (a) two cameras with Hastings-Brashear quadruplet lenses; clear apertures 5 inches and focal lengths approximately 15 feet, mounted equatorially, and (b) two cameras with Ross-Brashear quadruplet lenses, clear apertures 4 inches and focal lengths 5 feet, mounted equatorially. The sensitive plates in the four cameras will be 17 inches square, of plate glass one-fourth inch thick. It is expected that the four lenses will yield small and round star images, essentially out to the edges of the plates.

Inasmuch as the Navy transport will not be available until late August, and access to the Wallal region by the ordinary transportation systems is extremely difficult and essentially impossible for such heavy equipment, occupation of the station several months in advance of the eclipse date to secure the night reference plates is not practicable, and it is therefore planned that the night plates shall be secured by Dr. Trumpler on the island of Tahiti, unfavorable incidents not preventing, in May and June, 1922. The mountings of the four cameras consist entirely of steel, brass and cast iron, and they are provided with means of delicate adjustment such that the instrumental conditions prevailing at Tahiti should be duplicable without special difficulty, to the required degree of refinement, at the eclipse station. This proceeding appears to be unobjectionable, because Tahiti and Wallal differ in latitude only 2¼° and both are at sea level. The differences in the atmospheric refractions at the two times and places of observation should be extremely small, and eliminate themselves in the least squares solution. As a further precaution, however, an auxiliary group of stars located 6 hours east of the eclipse group will be photographed at Tahiti and at Wallal, and the plates exposed to the eclipse group, all exposures occurring at the eclipse latitude.

The equipment of the Toronto expedition consists of a camera with quadruplet lens 11 feet in focal length, mounted equatorially. It has been arranged that the night reference plates in Dr. Chant's program will be secured by Dr. Trumpler at Tahiti. The Toronto camera has been so designed that it may be attached to the equatorial mounting used by Dr. Trumpler at Tahiti after securing the Lick Observatory plates.

The program of the Crocker expedition will further include the photography of the corona, with a camera of 6 inches aperture and 40 feet focal length, in accordance with the Schæberle method, and likewise with a camera 6 feet in focal length. It is proposed that some or all of the coronal photographs shall be utilized in a photometric study of the brightness of the corona.

The spectrum of the corona, as to its general features, as to the accurate wave-lengths of some of its bright lines, and as to the distribution of several of its gaseous constituents, will be the subject of Dr. Moore's observations, with three spectrographs.

The Adelaide Observatory, in charge of Director Dodwell, will be equipped in part with a camera having a quadruplet lens loaned by the Allegheny Observatory for application to the Einstein problem, and further with a camera 40 feet in focal length, loaned by the University of California for the photography of the corona. The interval of time between mid-totality at Wallal and mid-totality at Cordillo Downs will be 35 minutes, and it is hoped that photographs of the corona secured at the two stations with instruments nearly identical may be valuable in a study of changes occurring in the coronal structure during this interval.

Dr. Cooke plans to apply the Sydney astrographic telescope to the Einstein problem at Gooniwindi.

Plans and instrumental equipment other than those described above are at present unknown.

W. W. CAMPBELL.

## CORRECTIONS TO THE RIGHT ASCENSION OF THE MOON

The following corrections to the right ascension of the Moon, as tabulated in the *American Ephemeris,* have been observed with the meridian circle:

| | | |
|---|---|---|
| February 13, 1922 | + 0s.93 | Fol. Limb |
| March 7, 1922 | + 1 .36 | Prec. Limb |
| March 8, 1922 | + 1 .36 | Prec. Limb |
| March 13, 1922 | + 0 .97 | Fol. Limb |

On March 8 the third magnitude star λ *Geminorum* was observed in the same field with the Moon. The star preceded the limb of the Moon by 30 seconds and was 4′ south of the center of the Moon. There was an interval of five seconds between the last transit thread of the star and the first transit thread of the Moon. The star was occulted earlier in the night.